Claims

[c1]   What is claimed is:

1. A System for analyzing a structure having a rigid element in which:

a data input of a material used in a structure is selected from a database of multiple materials and grades each of which contains necessary physical properties to evaluate the adequacy of a structure to withstand the loads input for a structure made of the material;

a process wherein selected material physical data is automatically applied to equations which are set to compute acceptance a standard method and value;

a process wherein a computed result is compared to a minimum acceptable standard set value in such a way to indicate the selected material/structure configuration as acceptable, marginal, or unacceptable by a percentage of the minimum set value;

a process in which if a computed result is unacceptable, below the standard value, or marginal, within a determined percentage of minimum standard value, a message screen is displayed to the user for acknowledgement before proceeding to completion of the analysis;

a process wherein a structural computation may be saved as a data file where it may be loaded at a later time such that all the data including the structural material and grade are input into the computation form and be subject to modification of all parameters as a user may wish for a modified recalculation.

2. A Computer program system wherein a building structure composed of walls, floors, foundations, ceilings, and/or roofs are defined in a database along with seismic and wind parameters such that:

a process in which the complete structural is evaluated for its potential to withstand a set standard seismic condition;

a process in which the complete structure is evaluated for it potential to withstand a set standard wind force condition;

a process in which the computed results of the defined structure physical data is automatically applied to seismic and wind equations which are set to a standard acceptance value;

a process in which the computed result of the defined structure is compared to a minimum acceptable set standard value in such a way to indicate the selected

configuration is acceptable, marginal, or unacceptable by a percentage of the minimum acceptable value;

a process in which if the computed result of the defined structure is unacceptable, below a set value, or marginal, within determined percentage of a minimum set value, a message screen is displayed to the user for acknowledgement before proceeding to completion of the analysis;

a process in which the computed seismic and wind force results are subject to further separate analysis such as the loads on a support configuration (such as shear walls and foundations);

a process in which the data base of the defined structure computation may be saved as a data file where it may be loaded at a later time such that all the data including the seismic and wind parameters are input into the computation form and be subject to modification of all parameters as a user may wish for a modified recalculation.

3.A system, wherein the building structure composite details of walls, floors, foundations, ceilings, and/or roofs are defined in terms of various nominal layers and area such that:

a process in which a composite structural member is evaluated for weight per unit area, load per lateral measurement, total weight, and load on structures where only ends are employed;

a process in which a defined composite structure computation may be saved as a data file where it may be loaded at a later time such that all the data of the composite structure member are input into a computation form and be subject to modification of all parameters as a user may wish for a modified recalculation.

4.A system, wherein the programming computer code structure contains a plurality of separate operating programs such that use of selected access codes allows:

a process in which the operation of any one or a combination of the separate operating programs;

a process in which the definition of general description data made on a general or main screen is included as a part of each separate operating program;

a process in which the operation of any one or a combination of the separate

operating programs may be tied together when the function of one provides data for another;

a process in which input of general control data that is used by the separate programs for evaluation of computed results;

a process in which input of a selected set of data base materials may be made from a larger material database permitting only the selected material database items to be used by the separate programs for evaluation of computed results;

a process in which the defined description may be saved as a data file where it may be loaded at a later time such that all the data of definition are input into the definition form and is subject to modification of all data as a user may wish.